

CLAIMS

What is claimed is:

- 5 1. A method of controlling a cryopump, the method comprising:
 coupling a heater to a cryopumping surface; and
 controlling the heater during operation of a cryopump to maintain
 a temperature of the cryopump.
- 10 2. A method according to Claim 1 wherein the heater is controlled by
 feedback from a temperature sensor.
3. A method according to Claim 2 further including shutting off the heater
 in response to receiving feedback indicating a temperature outside of a
15 normal range.
4. A method according to Claim 2 wherein the cryopumping surface further
 includes first and second cryopumping surfaces, each cryopumping
 surface having a heater.
- 20 5. A method according to Claim 2 wherein the heaters are controlled
 proportionally by the feedback from the temperature sensors.
6. A method according to Claim 1 wherein the heater maintains a
25 temperature of a first stage of the cryopump.
7. A method according to Claim 6 wherein the temperature is maintained
 above 65K.
- 30 8. A method according to Claim 1 wherein the heater is an electric heater.

- 5 9. A cryopump comprising:
 a heater coupled to a cryopumping surface; and
 an electronic controller which maintains a temperature of the
cryopump by controlling the heater during operation of a cryopump.
- 10 10. A cryopump as in Claim 9 wherein the heater is controlled by feedback
from one or more temperature sensors coupled to the cryopump.
- 10 11. A cryopump as in Claim 10 wherein the controller shuts off the heater
when the temperature sensed by one or more of the temperature sensors
is outside a normal temperature range.
- 15 12. A cryopump as in Claim 10 wherein the cryopumping surface further
includes:
 first and second cryopumping surfaces;
 the first cryopumping surface having a heater; and
 the second cryopumping surface having a heater.
- 20 13. A cryopump as in Claim 9 wherein the heaters are controlled
proportionally by the feedback from the temperature sensors.
- 25 14. A cryopump as in Claim 9 wherein the heater maintains a temperature of
a first stage of the cryopump.
15. A cryopump as in Claim 14 wherein the temperature is above 65K.
16. A cryopump as in Claim 9 wherein the heater is an electric heater.

17. A system for controlling a cryopump comprising:
 - means for heating a cryopumping surface; and
 - means for controlling the heater during operation of a cryopump to maintain a temperature of the cryopump.